

CARDIOVASCULAR FLASHLIGHT

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Ventricular rupture in Takotsubo cardiomyopathy

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An 82-year-old female after a stress event, with no past medical history of cardiovascular diseases, was referred for emergency coronary angiography. She was suffering from chest pain, with a blood pressure of 124/67 mmHg and a heart rate of 76 b.p.m. Prominent ST-segment elevation in V1–V5 and increased troponin I level (14.82 ng/mL) suggested anteroapical acute myocardial infarction. Urgent angiography documented no coronary artery disease (Panel A). Bedside echocardiography revealed abnormal left ventricular (LV) contraction with an 'apical ballooning' pattern; LV ejection fraction was 55% (Panel B). The bull's-eye parametric image of the peak longitudinal systolic strain indicated dyskinesia of the apical segments, not pathognomonic for acute myocardial infarction (Panel B).

With subsequent diagnosis of Takotsubo cardiomyopathy (TTC), the patient remained asymptomatic. On the second day of hospitalization, a pseudoaneurysm in the inguinal area was documented. After unsuccessful treatment with freehand ultrasound-guided compression, the patient was referred for vascular surgery simultaneously receiving 6% hydroxyethyl starch infusion on the fifth day of hospitalization. During transportation to the operating room, electrocardiogram monitoring documented bradysystolia. The patient was promptly reanimated and urgent echocardiography revealed pericardial effusion with signs of tamponade. Despite extended and extensive resuscitation efforts, the patient died.

The autopsy identified a wide penetrating apical rupture as well as 1500 mL of thrombi and liquid blood in the pericardium (Panel C). A tissue obtained from the focus of the apical fissure revealed fields of hypertrophied and disarrayed cardiomyocytes, surrounded by predominantly mononuclear inflammatory infiltrate and loose connective tissue as well the foci of haemorrhage (Panel D). Myocarditis was excluded by the pathologist.

The presented case should elucidate that TTC is potentially life threatening in the acute phase, despite a large body of literature reporting that it is a benign disease in most cases.

